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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,648	10/15/2003	Tzeng-Chih Chiou	ACMP0034USA	2647

27765 7590 11/15/2006

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EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/605,648	CHIOU, TZENG-CHIH	
	Examiner	Art Unit	
	Raymond S. Dean	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 6, 8 - 11, and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 6, 8 - 11, and 13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Kouyama teaches a mobile phone comprising: a baseband circuit for generating a communication signal (Figures 1, 2, Column 6 lines 12 – 15, lines 49 – 58, transmission signal processing circuit (32) is the baseband circuit); a first matching circuit electrically connected to the baseband circuit for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal (Figure 1, Column 7 lines 10 – 17, typical antenna matching circuits adjust a phase or magnitude between a current and voltage of a communication signal as a result of impedance matching); an antenna for wirelessly broadcasting the transmitting signal to generate a corresponding receiving signal (Figure 1, antenna (1)); a second matching circuit (Figure 1, Column 7 lines 10 – 17); a receiving circuit for transmitting the receiving signal to a baseband circuit (Figure 1, receiver subsection (21)); and a duplexer electrically connected between the first and second matching circuits and the antenna for transmitting the transmitting signal to the antenna and for transmitting the receiving signal to the receiving circuit (Figure 1, duplexer (10), the duplexer, which is electrically connected to the antenna, comprises the matching circuits, which are electrically connected to said duplexer);

Kouyama does not teach a baseband circuit generating a communication signal and receiving the transmitted receiving signal.

Yamada teaches a baseband circuit that generates a communication signal and receives a signal (Column 3 line 54, lines 64 – 66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the baseband circuit of Yamada in the mobile phone circuitry of Kouyama as an alternative means processing baseband signals thus reducing the amount circuit components used in said mobile phone.

Kouyama in view of Yamada does not teach a first matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal and a second matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the receiving signal.

Itoh (US 6,341,216) teaches a first matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal (Column 8 lines 45 – 50) and a second matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the receiving signal (Column 8 lines 45 – 50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the circuitry of Kouyama in view of Yamada with the matching circuit configuration of Itoh for the purpose of eliminating pass loss caused by

mode switching, which switches between transmit mode and receive mode as taught by Itoh.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 – 5, 8 – 10, 12 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kouyama (US 6,643,497) in view of Yamada (US 6,804,508) and in further view of Itoh (US 6,341,216).

Regarding Claim 1, Kouyama teaches a mobile phone comprising: a baseband circuit for generating a communication signal (Figures 1, 2, Column 6 lines 12 – 15, lines 49 – 58, transmission signal processing circuit (32) is the baseband circuit); a first matching circuit electrically connected to the baseband circuit for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal (Figure 1, Column 7 lines 10 – 17, typical antenna matching circuits adjust a phase or magnitude between a current and voltage of a communication signal as a result of impedance matching); an antenna for wirelessly broadcasting the transmitting signal to generate a corresponding receiving signal (Figure 1, antenna (1)); a second matching circuit (Figure 1, Column 7 lines 10 – 17); a

receiving circuit for transmitting the receiving signal to a baseband circuit (Figure 1, receiver subsection (21)); and a duplexer electrically connected between the first and second matching circuits and the antenna for transmitting the transmitting signal to the antenna and for transmitting the receiving signal to the receiving circuit (Figure 1, duplexer (10), the duplexer, which is electrically connected to the antenna, comprises the matching circuits, which are electrically connected to said duplexer);

Kouyama does not teach a baseband circuit generating a communication signal and receiving the transmitted receiving signal, a first matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal, and a second matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the receiving signal.

Yamada teaches a baseband circuit that generates a communication signal and receives a signal (Column 3 line 54, lines 64 – 66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the baseband circuit of Yamada in the mobile phone circuitry of Kouyama as an alternative means processing baseband signals thus reducing the amount circuit components used in said mobile phone.

Itoh teaches a first matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal (Column 8 lines 45 – 50) and a second matching

circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the receiving signal (Column 8 lines 45 – 50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the circuitry of Kouyama in view of Yamada with the matching circuit configuration of Itoh for the purpose of eliminating pass loss caused by mode switching, which switches between transmit mode and receive mode as taught by Itoh.

Regarding Claim 8, Kouyama teaches a method for adjusting properties of a mobile phone, the mobile phone comprising: a baseband circuit for generating a communication signal (Figures 1, 2, Column 6 lines 12 – 15, lines 49 – 58, transmission signal processing circuit (32) is the baseband circuit); a first matching circuit electrically connected to the baseband circuit for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal (Figure 1, Column 7 lines 10 – 17, typical antenna matching circuits adjust a phase or magnitude between a current and voltage of a communication signal as a result of impedance matching), wherein the first matching circuit has at least an electrical element, the phase or the magnitude between the current and the voltage of the communication signal being changed as an element parameter of the electrical element is changed (Figure 3, Column 8 lines 57 – 59, the capacitors are the electrical elements, said capacitors have the capability of changing the phase or magnitude between the current and voltage of a signal, the element parameter is the capacitance); an antenna for wirelessly broadcasting the transmitting

signal to generate a corresponding receiving signal (Figure 1, antenna (1)); a second matching circuit (Figure 1, Column 7 lines 10 – 17); a receiving circuit for transmitting the receiving signal to a baseband circuit (Figure 1, receiver subsection (21)); and a duplexer electrically connected between the first and second matching circuits and the antenna for transmitting the transmitting signal to the antenna and for transmitting the receiving signal to the receiving circuit (Figure 1, duplexer (10), the duplexer, which is electrically connected to the antenna, comprises the matching circuits); the method comprising: changing the element parameter of the electrical element of the first matching circuit so as to change the phase or the magnitude between the current and the voltage of the communication signal without changing the phase or the magnitude between the current and the voltage of the receiving signal, such that the field pattern of the antenna for signal-transmitting in a wireless manner remains the same as that of the antenna for signal-receiving in a wireless manner (Figure 1, Column 7 lines 10 – 17, a matching circuit used in a mobile phone for both the transmission path and the reception path is typically optimized for both said paths thus enabling optimal gain patterns for both the receive and transmit paths, in order for the optimal gain pattern in both paths to occur the matching circuit will change/not change the phase or magnitude between the current and voltage of a transmission signal without changing the phase or magnitude between the current and voltage of a receiving signal).

Kouyama does not teach a baseband circuit generating a communication signal and receiving the transmitted receiving signal, a first matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the

communication signal to generate a corresponding transmitting signal, and a second matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the receiving signal.

Yamada teaches a baseband circuit that generates a communication signal and receives a signal (Column 3 line 54, lines 64 – 66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the baseband circuit of Yamada in the mobile phone circuitry of Kouyama as an alternative means processing baseband signals thus reducing the amount circuit components used in said mobile phone.

Itoh teaches a first matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the communication signal to generate a corresponding transmitting signal (Column 8 lines 45 – 50) and a second matching circuit utilized only for adjusting a phase or a magnitude between a current and a voltage of the receiving signal (Column 8 lines 45 – 50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the circuitry of Kouyama in view of Yamada with the matching circuit configuration of Itoh for the purpose of eliminating pass loss caused by mode switching, which switches between transmit mode and receive mode as taught by Itoh.

Regarding Claims 2, 13, Kouyama in view of Yamada and in further view of Itoh teaches all of the claimed limitations recited in Claims 1, 8. Kouyama further teaches a microphone electrically connected to a baseband circuit for receiving sound waves to

generate an audio signal, the baseband circuit being used for processing the audio signal to generate the communication signal (Column 6 lines 12 – 15, lines 49 – 58, typical mobile phones comprise microphones); and a speaker electrically connected to a baseband circuit; wherein the baseband circuit is further used for processing the receiving signal to generate a corresponding sound signal, the speaker being used for transforming the sound signal into sound waves (Column 6 lines 12 – 15, lines 41 – 48, typical mobile phones comprise speakers).

Regarding Claim 3, Kouyama in view of Yamada and in further view of Itoh teaches all of the claimed limitations recited in Claim 1. Kouyama further teaches wherein the first matching circuit has at least an electrical element, the phase or the magnitude between the current and the voltage of the communication signal being changed as an element parameter of the electrical element is changed (Figure 3, Column 8 lines 57 – 59, the capacitors are the electrical elements, said capacitors have the capability of changing the phase or magnitude between the current and voltage of a signal, the element parameter is the capacitance).

Regarding Claims 4, 9, Kouyama in view of Yamada and in further view of Itoh teaches all of the claimed limitations recited in Claims 3, 8. Kouyama further teaches wherein the electrical element is a capacitor, and the element parameter is a capacitance (Figure 3, Column 8 lines 57 – 59, since there are capacitors there will be capacitance).

Regarding Claims 5, 10, Kouyama in view of Yamada and in further view of Itoh teaches all of the claimed limitations recited in Claims 3, 8. Kouyama further teaches

wherein the electrical element is an inductor, and the element parameter is an inductance of the inductor (Figure 3, Column 8 lines 57 – 59, the coils are the inductors, since there are inductors there will be inductance).

4. Claims 6, 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kouyama (US 6,643,497) in view of Yamada (US 6,804,508) in view of Itoh (US 6,341,216), as applied to Claims 1, 8 above, and further in view of Epperson (US 6,567,647).

Regarding Claims 6, 11, Kouyama in view of Yamada and in further view of Itoh teaches all of the claimed limitations recited in Claims 1, 8. Kouyama further teaches a power controller electrically connected between the baseband circuit and the first matching circuit for adjusting the power of the communication signal, and for then transmitting the adjusted communication signal to the first matching circuit (Figure 1, Column 6 lines 32 – 36, the transmitter subsection (22) amplifies the signal thus the transmitter is acting as the power controller).

Kouyama in view of Yamada does not teach an isolator electrically connected between the first matching circuit and the power controller for transmitting the communication signal from the power controller to the first matching circuit, and for reducing the reflected signal from the first matching circuit to the power controller to protect the power controller.

Epperson teaches isolator electrically connected between a duplexer, which typically comprises matching circuits, and the power controller for transmitting the

communication signal from the power controller to the duplexer, and for reducing the reflected signal from the duplexer to the power controller to protect the power controller (Column 1 lines 46 – 52, Column 5 lines 10 – 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile phone circuitry of Kouyama in view of Yamada and in further view of Itoh with the isolator of Epperson for the purpose of enabling radio frequency energy to pass in one direction while providing high isolation to reflected energy in the reverse direction as taught by Epperson.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raymond S. Dean
November 7, 2006

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